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ABSTRACT

This investigation sought to study separately evaluative devices for assessing levels of performance and knowledge competency in basketball, swimming, and gymnastics. Subjects were women students at the University of Washington, 1968-69. For assessment of basketball competence, indications are that: (1) evaluation, by one individual, of films of play can be highly reliable as a measuring method of skills but not knowledge; (2) film evaluation cannot assess knowledge; and (3) skill evaluation cannot be used to indicate knowledge. Swimming competency was assessed using both a written test and self-estimates of two random samples. Comparisons made between the test and self-estimates reveal comparable results for the two samples. Conclusions indicate that: (1) self-estimate cannot be the sole measuring device employed; and (2) scores on the written test used here cannot be used as an accurate measure of competency. Evaluation by qualified judges of gymnastics performance indicates that film evaluation of skill, rating by the course instructor, and rating by a high level performer who has competed can all be valid measures of competency. (Author/CJ)

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DETERMINATION OF EVALUATIVE DEVICES FOR ADEQUATE ASSESSMENT OF LEVELS OF COMPETENCE IN CERTAIN PHYSICAL EDUCATION ACTIVITIES

Professor Ruth M. Wilson

September 1969

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Final Report

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DETERMINATION OF EVALUATIVE DEVICES FOR ADEQUATE ASSESSMENT OF LEVELS OF COMPETENCE IN CERTAIN PHYSICAL EDUCATION ACTIVITIES

BASKETBALL COMPETENCY
QUESTEST: AN INSTRUMENT FOR EVALUATING SWIMMING ABILITY
GYMNASTICS COMPETENCY: FREE EXERCISE

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July 1970

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DETERMINATION OF EVALUATIVE DEVICES FOR ADEQUATE ASSESSMENT OF LEVELS OF COMPETENCE IN CERTAIN PHYSICAL EDUCATION ACTIVITIES

The purpose of this investigation was to study evaluative devices for assessing levels of competence in certain physical education activities. During the investigation eight evaluation instruments for assessing basketball performance and knowledge, swimming performance and knowledge, and gymnastics free exercise performance were studied extensively. Some of these devices were new, developed in the course of this study. Others were revised forms of previously administered evaluation instruments.

All subjects were women students at the University of Washington. The studies occurred beginning Spring Quarter 1968, extending through Summer Quarter 1969.

As the result of this extensive investigation, greater accuracy and dependability in assessment of student competence is now feasible.

Since the three areas selected for study were investigated separately, each one is discussed in this report as an independent phase of the research.

BASKETBALL COMPETENCY

INTRODUCTION

In 1968, study of basketball competency of University of Washington women students was undertaken to determine the validity and reliability of certain instruments; to discover whether assessing competence in basketball is possible through skill and knowledge examinations only, or whether, in addition, it is necessary to include the use of subjective judgment. A further purpose was to determine whether individuals who score high on the knowledge examination also score high on the skill examination, and whether or not those who secure low scores on knowledge do so also in the skill examination.

Prior to this investigation a number of studies concerned with aspects of assessing levels of competence were undertaken by faculty and developed through departmental research.[1]

In the earlier studies it became apparent that adequate assessment requires greater objectivity, both in performance and knowledge testing. Evidence secured indicated that, for some activities, improved devices were needed. In basketball, the need for some modification in the application of the rating scale was reported.[2]

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[1]Ruth M. Wilson, Assessing Competency in Physical Education Activities. (Springfield, Illinois: Charles C Thomas, 1966).

[2]Ibid., p. 88.

PROCEDURE

This study was undertaken to determine the reliability and validity of various methods for assessing basketball competence. A previously developed knowledge test[1] and three performance tests, which had been studied Autumn Quarter 1967, were administered to twenty-nine students enrolled in basketball classes Winter Quarter 1968. A fourth skill test[2] was given to determine whether it was reliable. Also, at the end of Winter Quarter, three experienced judges using a previously established rating scale, rated all students as they played. The play was recorded on videotape by a trained operator. At a later date players were rated by a film evaluator who used the established rating scale as she viewed the tape. She had not seen these students play. To determine the reliability of the tape evaluation the evaluator re-evaluated the tape three months later and correlated the scores from the first and second evaluation.

Ratings given by three judges who watched the actual play were intercorrelated and each was correlated with the film evaluation, as was the sum of the three judges' ratings (Table 1).

TABLE 1

INTERCORRELATION OF JUDGES' RATINGS AND RELATIONSHIP TO FILM EVALUATION

JUDGES	X		Y		Z		■*	
STUDY	1	2	1	2	1	2	1	2
X			.540	.808	.643	.666	.856	.791
Y					.734	.799	.775	.775
Z							.870	.866
SUM XYZ	.881	.917	.828	.910	.893	.883	.963	.884

*film evaluation

[1]Appendix A, pp. 17-33.

[2]Appendix B, p. 34.

Both the sum of the scores on the three skill tests and the knowledge examination scores were correlated with the first film evaluation as was the total of the T-scores for the skill and knowledge tests (Table II).

TABLE II

CORRELATION OF RATINGS AND FILM EVALUATION WITH SKILL AND KNOWLEDGE TEST SCORES

	SKILL TEST		KNOWLEDGE TEST		COMBINED SKILL AND KNOWLEDGE TEST T-SCORES	
ADMINISTRATION	1	2	1	2	1	2
JUDGE X	.617	.460	.457	.512		
JUDGE Y	.617	.484	.287	.600		
JUDGE Z	.665	.817	.349	.579		
TOTAL JUDGES	.725	.630	.404	.611	.672	.669
FILM EVALUATION	.695	.667	.442	.574	.658	.621
SKILL TESTS			.507	.736		

The fourth skill test was used in a reliability study. The first and second trials were correlated and the reliability of the total test predicted by application of the Spearman-Brown formula.

The above study was repeated Autumn Quarter 1968, using sixteen new physical education major students. For this second study the fourth skill test (Dribbling and Lay-Up Shooting) was included. A second film evaluator participated in this study.

RESULTS

Further evidence to substantiate the reliability of film evaluation was shown. When the sum of the judges' ratings was compared with film evaluation very high correlations were found. For the first group the correlation coefficient was .96, and for the second .88. Therefore, it appears that qualified judges using an adequate rating scale and a single individual evaluating a tape of the play assess basketball playing ability at the same level. A fair assessment apparently can be made by a single judge watching play (.54 to .81).

When film evaluation was compared with skill test scores and combined knowledge and skill test T-scores, substantial agreement occurred. Also, a substantial relationship existed between film

evaluation and knowledge. However, the correlation is not high enough to suggest that the knowledge test can be used as a single evaluative device.

In the first administration the reliability of the Basketball Dribbling and Lay-Up Shooting test was found to be somewhat below the level acceptable for individual evaluation. Further study was undertaken in the second administration. It was found that at least five trials, rather than two, are necessary if the test is to be reliable for evaluation of individuals.

CONCLUSIONS

Within the limitations involved in the two groups of university women students (29 and 16) who were the subjects for this study, the following conclusions seem justified:

1. Evaluation of films of basketball play by one individual can be a highly reliable method for measuring levels of basketball skill competency.

2. If the combined judgment of three qualified judges rating basketball play can be accepted as a criterion of skill level, film evaluation is a highly valid measure of basketball playing ability, but the skill tests used in this study are not.

3. Film evaluation cannot be used to assess basketball knowledge.

4. This basketball knowledge test cannot be used as an indication of skill level, nor can skill evaluation be used to indicate knowledge.

5. The Basketball Dribbling and Lay-Up Shooting test is reliable for assessing skill of individuals only if at least five, rather than two, trials are used.

RECOMMENDATIONS

1. Continue the use of the previously established Basketball Rating Sheet as revised.[1]

2. Administer the basketball competency test to entering women students using the knowledge examination and film evaluation. If film evaluation is not feasible, substitute three judges' ratings.

3. Study the movement patterns of the more skilled and the less skilled players to determine whether a rating scale more effective for this purpose could be devised so that subjective rating processes could be simplified.

4. Refine the skill tests to ascertain whether these could be as reliable as ratings of play.

---

[1]Appendix C, pp. 35.

SWIMMING COMPETENCY

INTRODUCTION

The purpose of this study was to develop an instrument for evaluating levels of swimming competency of entering students. A preliminary study undertaken by Wilson and Gilbert, Spring Quarter 1968 preceded this complete study.[1]

PROCEDURE

Data for this study were obtained from 1572 women students enrolled in physical education activity classes at the University of Washington, Winter Quarter 1969.

In order to complete this study, results of the University of Washington Safety Swim Test or evidence of American Red Cross swimming certification and a Questest[2] completed by all students were used. Questest is the term designated by the principal investigator to identify the measuring instrument used: a questionnaire requesting information about past experience and self-estimate of swimming ability and a short written examination of swimming technique.

Two random samples of 100 were drawn from papers of those students who had taken the University of Washington Safety Swim Test or submitted evidence of Red Cross swimming classification at the intermediate level or above.

Students were classified according to their responses to questions that indicated their estimate of ability and according to their responses to the technique questions. These classifications were compared to their ability as demonstrated in the swim test or as indicated by the Red Cross card. Relationships between classifications were studied as follows:

1. level on swim test or swimming certification--level on written test
2. level on swim test or swimming certification--self-estimate of ability
3. level on swim test or swimming certification--total of level on written test and self-estimate of ability

After extensive study of the random samples had occurred, an additional sample was selected. Fifty papers from each of the four swim test classification groups (161 non-swimmer, 162 elementary, 163 intermediate, 164 advanced) were used.

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[1]Ruth M. Wilson and Judith L. Gilbert, "Development of an Instrument to Evaluate Level of Swimming Competency," unpublished study, University of Washington, Seattle, Washington, 1968.

[2]Appendix D, pp. 37.

The checklist used in determining self-estimate of ability was re-examined. After extensive conference with personnel concerned this was revised further so that the questions related more directly to the swim classifications of the test. It was readministered to the students.

RESULTS

The results for the two samples were very comparable. Neither the written examination nor the self-estimate, nor a combination of these two proved to give sufficiently valid estimates of ability as shown by actual performance on the swim test. However, 61 per cent of each of the two groups (and 61% of the total) classified themselves perfectly (Table 1). The greatest discrepancy is seen in students with intermediate skill classifying themselves as advanced and those with skill just below intermediate level also classifying themselves at a higher level.

TABLE I

NUMBER AND PER CENT OF SUBJECTS AT VARIOUS LEVELS ON THE SWIM TEST CLASSIFIED AT VARIOUS LEVELS BY SELF-ESTIMATE OF ABILITY

LEVEL ON SWIM TEST	SELF-ESTIMATE OF ABILITY								N	
	161		162		163		164			
	I	II	I	II	I	II	I	II	I	II
161 Non-swimmer	4 100%	9 100%							4	9
162 Elementary	1 14%	1 20%	2 28%	2 40%	4 57%	2 40%			7	5
163 Inter-mediate			1 2%	2 4%	23 44%	20 38%	28 54%	31 58%	52	53
164 Advanced					5 14%	3 9%	32 86%	30 90%	37	33
N	5	10	3	4	32	25	60	61	100	100

After the self classification questions were revised to more nearly parallel the criteria used when the swim test was administered and these students were asked to respond to these new questions, the results followed a similar pattern, though the agreement proved to be better (Table II). Eighty-two per cent of the total group classified themselves correctly. Again the intermediate and the elementary (high beginning) levels gave the poorest agreement but this time the misclassification of elementary swimmers was low rather than high.

TABLE II

NUMBER AND PER CENT OF SUBJECTS AT VARIOUS LEVELS ON THE SWIM TEST CLASSIFIED AT VARIOUS LEVELS BY SELF-ESTIMATE OF ABILITY

LEVEL ON SWIM TEST	SELF-ESTIMATE OF ABILITY 161	162	163	164	N
161	47 94%	3 6%			50
162	13 26%	33 66%	4 8%		50
163			36 73%	13 27%	49
164			2 4%	48 96%	50
N	60	36	42	61	199

When the knowledge examination questions were studied, using an item analysis, it was found that not all questions were valid. Results for seven of the most valid questions were then compared with results from the swim test and self-estimate of ability. No significant relationship between the number of subjects classified at the four levels by the swim test and by the written examination was found. However, it was found that subjects who scored 0 and 1 on the seven item written examination failed the performance test. Subjects who scored 6 and 7 passed the performance test unless their self-estimate of ability was at the beginning or elementary level.

Considering all results it appears that the revised self-estimate of ability provided the most accurate classification for a majority of subjects. It must be remembered, however, that it is possible that use of the self-estimate questions might not provide as

valid results if these questions were not administered in combination with those dealing with past experience and knowledge of swimming technique.

The privilege of taking the performance test should be granted to any student who protests the assessment of failure on the basis of the Questest.

CONCLUSIONS

Within the limitations of this study the following conclusions seem justified:

1. Self-estimate of ability in swimming for purposes of classifying on a pass or fail basis only can be valid.

2. Self-estimate of ability cannot be the sole measuring device employed, since subjects will not provide an honest assessment if they are aware that this is to be the only evaluative instrument.

3. Scores achieved on the written examination used in this study cannot be used as an accurate measure of level of swimming competency.

4. On the written examination, seventeen items were found to be no more reliable than seven items.

5. Subjects who score 0 and 1 on the seven item written examination fail the performance test. Subjects who score 6 and 7 pass the performance test unless their self-estimate of ability is at the beginning or elementary level. The privilege of taking the performance test should be granted to any student who protests the assessment of failure.

RECOMMENDATIONS

1. A revised checklist for self-estimate of ability which consists of separate items so the subject cannot guess at the various swim classifications should be used.[1]

2. The written examination should be revised to provide discrimination between various levels of swimming competency.

3. Until a reliable written examination can be developed, administration of a revised checklist for self-estimate of ability and seven questions should be administered; the questions being used only to give an impression that passing is not possible without some knowledge of swimming.

4. Autumn Quarter 1969, the revised Questest should be administered to all women enrolled in physical education activity classes and the present Safety Swim Test should be administered after students have completed the Questest, then the study should be repeated.[2]

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[1]Appendix D, pp. 37.

[2]Beverly Joan Pope, "Validity of a Written Instrument to Assess Swimming Ability of College Women," (Unpublished Master's Thesis, University of Washington, 1970).

GYMNASTICS COMPETENCY: FREE EXERCISE

INTRODUCTION

In order to evaluate performance for certain motor activities, subjective judgment of observers or judges is essential. It is the belief of many qualified physical educators that objective standards can be applied to the elements that compose a free exercise routine.

Inasmuch as the techniques for judging performance using the videotape recorder had been refined earlier (in basketball), a parallel study was conducted using women students in gymnastics classes.

The purpose of this study was to develop a reliable and valid instrument for evaluating gymnastics free exercise skill.

PROCEDURE

Relationships among three methods of judging competency of university women students in gymnastics free exercise were studied. Twenty-seven subjects were completing beginning gymnastics activity courses Winter and Spring Quarters 1969 at the University of Washington. Each had composed a free exercise routine to music chosen by her and approved by the instructor. At the end of Winter Quarter twelve subjects performed their compositions while being judged by the instructor of the course. At the end of Spring Quarter fifteen subjects performed while being judged by the instructor and two members of the University women's gymnastics team. All judges used a slight modification of a standard rating scale.[1] All performances were recorded on videotape by a student operator. Subsequently, using the established rating scale, the subjects were rated by a trained film evaluator. The film evaluator had developed a procedure[2] and score sheet[3] for using in film evaluation. At that time it was discovered that performances of only seven of the fifteen subjects on the second film were recorded.

Ratings given by the instructor who observed the performances Winter and Spring Quarters were correlated with the film evaluation. Ratings of the three judges were intercorrelated. Then each judge's ratings were correlated with the sum of the three judges', ratings for both fifteen and seven subjects and with the film evaluation for seven subjects.

---

[1]DGWS Gymnastics Guide, June 1963-June 1965, pp. 90-91. Modifications: (1) substitute the term "Transitions and Continuity" for "Technical Value"; (2) difficulty ratings dependent upon subjective value judgments of the judges rather than upon inclusion of five elements of difficulty.

[2]Appendix E, p. 40.

[3]Appendix F, p. 41.

RESULTS

The ratings by the instructor correlated very highly with the film evaluation, .88 and .94. This correlation for Spring Quarter was identical with the correlation between the film evaluation and the sum of the ratings by three judges (Table I). Thus, it appears that if using an adequate scale, the instructor or three judges or a film evaluator can rate free exercise performance at the beginning level equally well.

TABLE I

INTERCORRELATION OF JUDGES' RATINGS AND RELATIONSHIP TO FILM EVALUATION

JUDGE	X	Y	Z	"a"
X		.894	.905	.935
Y			.928	.911
Z				.855
SUM XYZ	.971	.967	.967	.935

For their compositions, most subjects utilized certain free exercise basic movements including: forward roll and cartwheel (18), back roll (15), and front scale (13). Approximately one-half utilized the Swedish fall and headstand or handstand (10) and V-sit (9).

Walkovers, handsprings, and a flip were included by performers who (according to verification by the instructor) were not beginners when they enrolled in the course.

CONCLUSIONS

Within the limitations of this study the following conclusions seem justified:

1. If the combined judgment of three qualified judges rating free exercise performance can be a criterion for skill level, film evaluation is a highly valid measure of free exercise competency.

2. If the combined judgment of three qualified judges rating free exercise performance can be a criterion for skill level, rating by the instructor of the course is a highly valid measure of free exercise competency.

3. If the combined judgment of three qualified judges rating free exercise performance can be a criterion for skill level, rating by one high level performer who has competed is a highly valid measure of free exercise competency.

4. If the curricular content of this gymnastics course can be considered appropriate for beginners, back roll, cartwheel, forward roll, and front scale can be included as required basic free exercise movements in evaluating beginning skills. In addition, headstand or handstand, Swedish fall, and V-sit may be appropriate requirements.

RECOMMENDATIONS

1. As she performs, each subject should be identified on the film by numeral or name.

2. The judges' scorecard should be modified to clarify all items and point values to be considered within each category.

3. The videotape recorder and camera should be operated by an experienced operator (preferably a professional operator) to assure success in recording.

4. Before subjects are excused, the videotape should be viewed to ascertain whether all performances are properly recorded.

5. In order that this device can be utilized to classify other students according to ability levels of performance, optional routines should include certain required basic movements from the group used in this study.

6. In order to classify physical education major students, a similar study should be conducted using other gymnastics events, i.e., uneven bars, balance beam, horse, and trampoline.

7. In order to determine the training necessary for a film evaluator (previous experience and knowledge of movement), conduct additional studies utilizing the Film Evaluation Procedure as developed for the present study and make revisions as deemed necessary.

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APPENDIX A

UNIVERSITY OF WASHINGTON
School of Physical and Health Education
Department for Women

BASKETBALL KNOWLEDGE EXAMINATION

REVISED 7/69

Part 1. True or false: On the answer sheet, mark A if the statement is True, mark B if the statement is False.

1. A player with the ball may use either foot as a pivot foot after stopping with a one step stop at the end of a dribble.

2. A red offensive player pushes a yellow defensive player while they both jump to rebound the ball. The red player rebounds the ball. The official should award the ball to the yellow team out of bounds at the sideline.

3. A player taps the ball with both hands simultaneously for three consecutive dribbles. The official should award the ball to the opposing team out of bounds at the side line.

4. In a small gym with less than three feet between the boundary line and the wall, when a player is throwing the ball in from out of bounds, members of both teams must remain three or more feet from the boundary line.

5. During the first quarter, a yellow player fouls a red offensive player who is dribbling into the key to shoot. The official should award the red player two free throws.

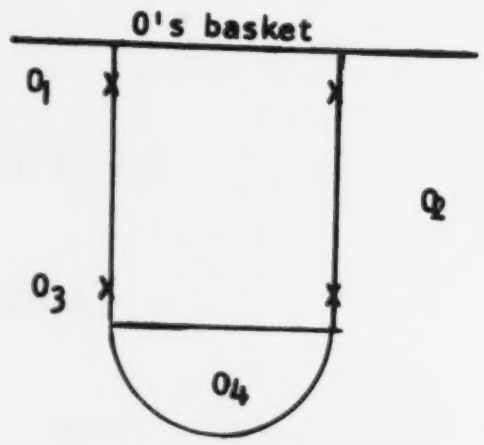
6. During the second quarter, a yellow player shoots and makes a basket. As she follows through after the shot, she falls forward pushing a red player. The basket counts and the red player receives one free throw.

7. While the ball is in play, an unguarded player in bounds may hold the ball for an indefinite period of time.

8. A player may lift her pivot foot while passing the ball providing the pivot foot does not touch the floor again before she releases the ball.

9. A red player is awarded one free throw. As the red player shoots, a red teammate steps into the lane. The ball then hits the rim and is rebounded by a yellow player. The official should allow the ball to continue in play.

10. If O_4 remains in the diagramed position more than three seconds as she waits to receive a pass from O_3, she has committed a three-second lane violation.

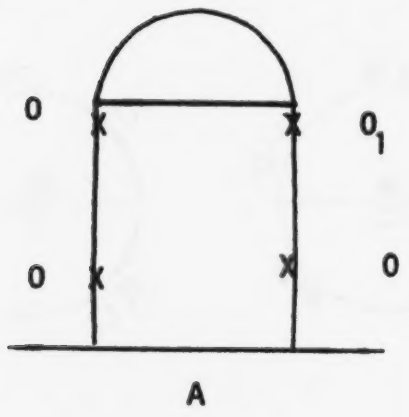


Part 2. Multiple choice: Select the <u>best</u> answer for each of the following questions. On the answer sheet, mark the letter for that response.

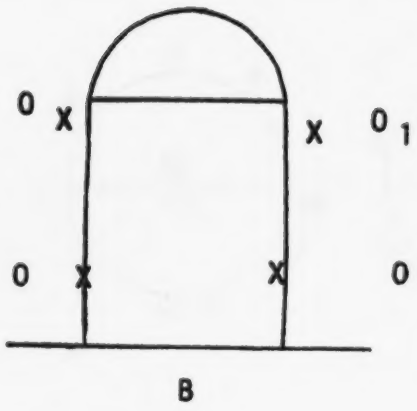
Key to symbols in diagrams:

⟶	Path of player without the ball
⟿	Path of player while dribbling
⇢	Path of ball when passed
X	Defensive players in their backcourt
O	Offensive players in their forecourt
□ ■	Opposing team members

11. O_1 has the ball. Which of the <u>box</u> zone defenses has positioned itself most effectively?



A



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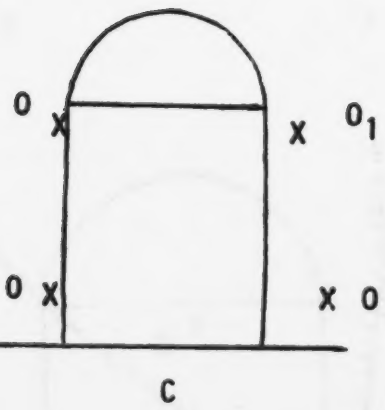

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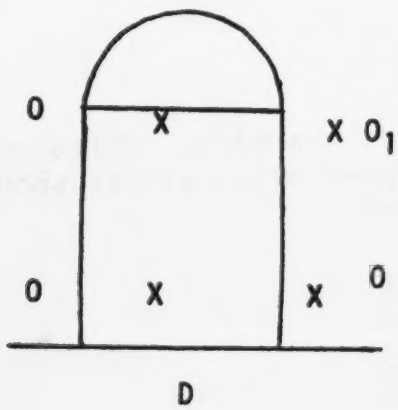
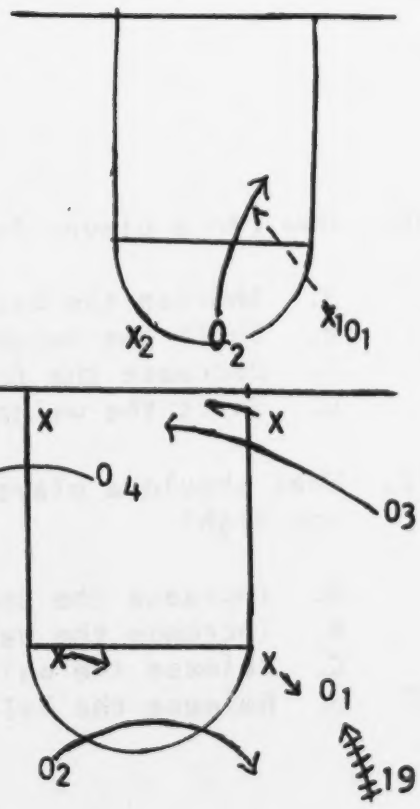


D

12. O_1, though closely guarded by X_1, plans to pass to O_2 who is cutting toward the basket. Which pass is the most appropriate?

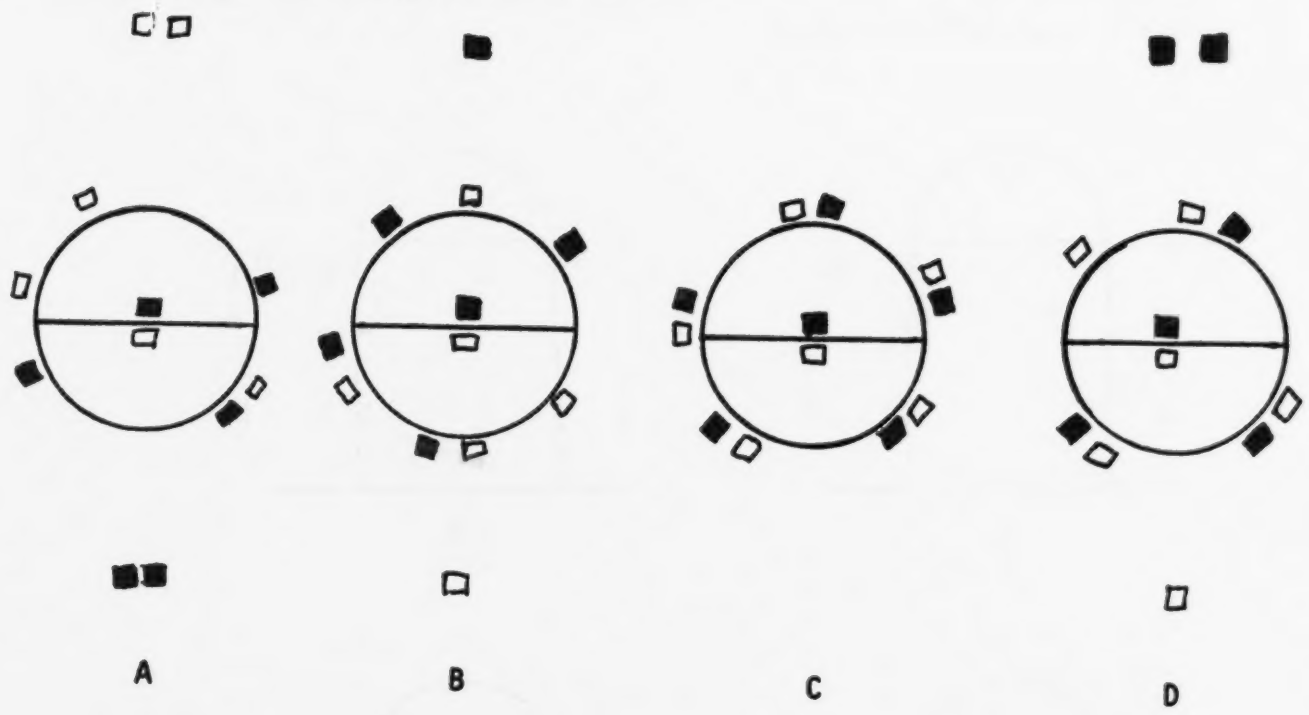
A. Two hand overhead pass
B. Hook pass
C. Chest pass
D. Bounce pass



13. O_1 dribbles and plans to pass to a teammate. Which pass will most effectively work the ball toward the basket?; which pass could be most easily intercepted?

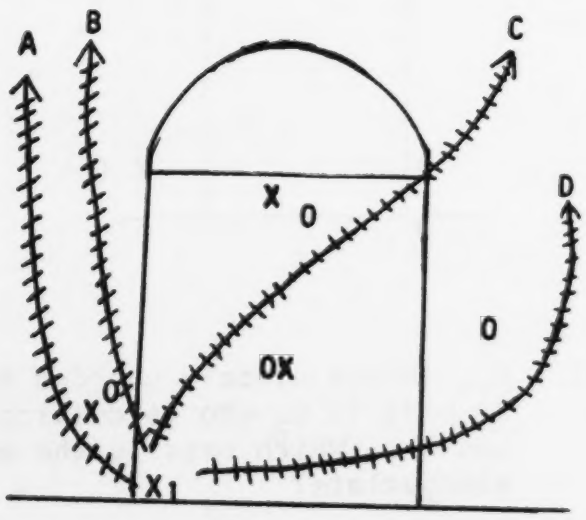
	most effective;	most easily intercepted
A.	Pass to O_3;	pass to O_2.
B.	Pass to O_3;	pass to O_4.
C.	Pass to O_2;	pass to O_4.
D.	Pass to O_2;	pass to O_3.

14. Which of the following diagrams illustrates an <u>illegal</u> formation during a center jump ball?



15. X_1 rebounds the ball. Which of the diagramed alternatives should she select?

A. Path A.
B. Path B.
C. Path C.
D. Path D.



16. How can a player increase the speed of a one-hand overhand pass?

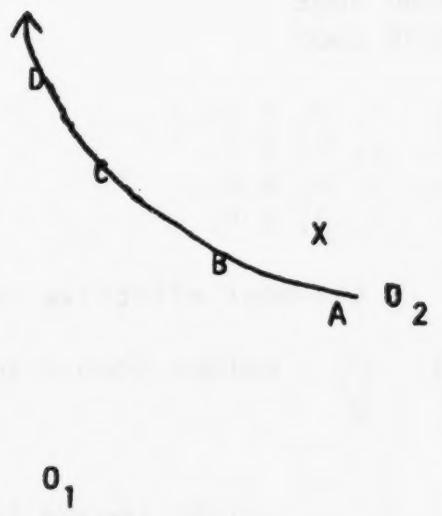
A. Shorten the backswing.
B. Shift the weight forward during the forward swing.
C. Decrease the follow through.
D. Shift the weight forward during the backswing.

17. What should a player do if her one-hand underhand passes are going too high?

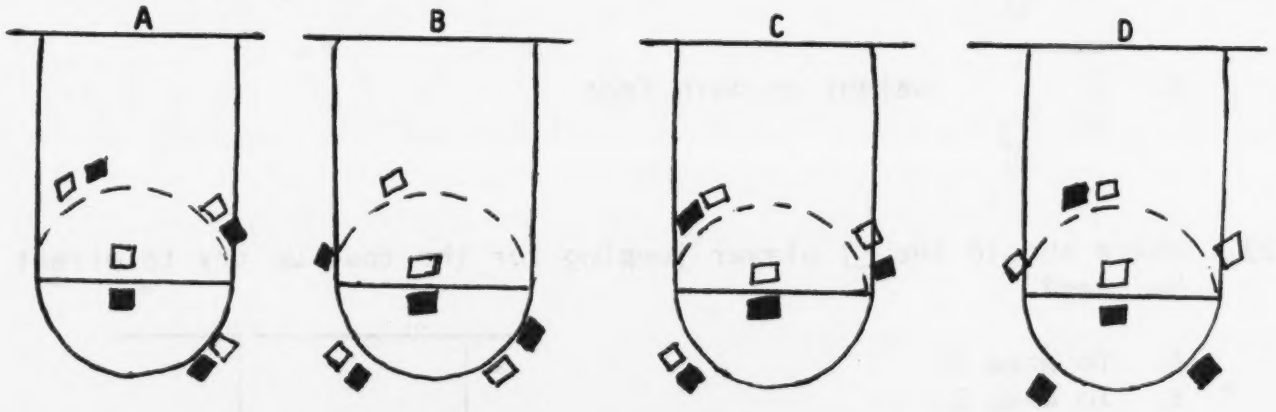
A. Increase the speed.
B. Increase the backswing.
C. Release the ball sooner.
20 D. Release the ball later.

18. 0_1 has the ball and plans to pass to 0_2 who is moving along the indicated path. To which spot should 0_1 aim her pass?

A. Spot A.
B. Spot B.
C. Spot C.
D. Spot D.



19. The ☐ team does not expect to win the jump ball. In which diagramed situation have they most effectively defended against their opponents?



20. When should a player feint before dribbling?

A. When her teammates are closely guarded.
B. When she is guarded closely from the front.
C. When her guard is dropping back.
D. When she plans to dribble toward the basket.

21. Which three shots are the most difficult to defend against?

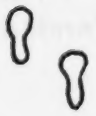
1. One-hand set shot
2. Two-hand set shot
3. Lay-up shot
4. Jump shot
5. Hook shot

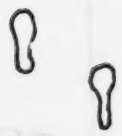
A. 1, 3, & 5.
B. 2, 4, & 5.
C. 3, 4, & 5.
D. 1, 2, & 4.

22. Which is the most effective foot position for a guard?

A. weight toward toes

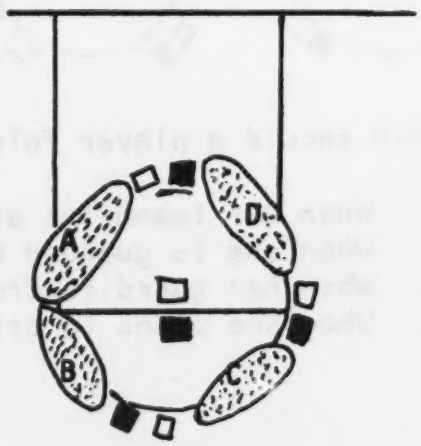
B. weight toward toes

C.  weight on left foot

D.  weight on both feet

23. Where should the □ player jumping for the toss-up try to direct her tap?

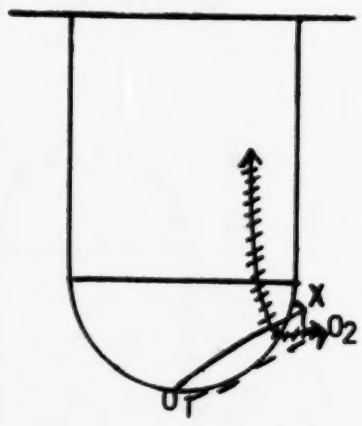
A. To area A.
B. To area B.
C. To area C.
D. To area D.



22

24. What offensive pattern are O_1 and O_2 using?

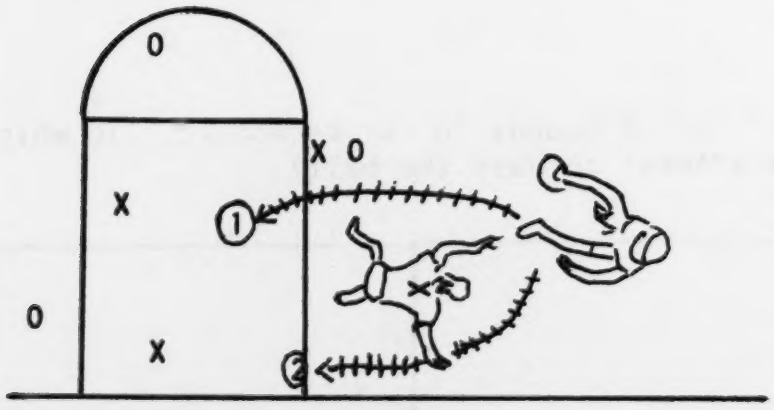
O_1 passes to O_2 and runs to the position indicated in the diagram; then O_2 dribbles around O_1 toward the basket.



A. Block and roll (Pick).
B. Moving screen.
C. Cut-in.
D. Give and go.
E. Fast break.

25. Which path is the guard (X) attempting to force the forward to follow? Why?

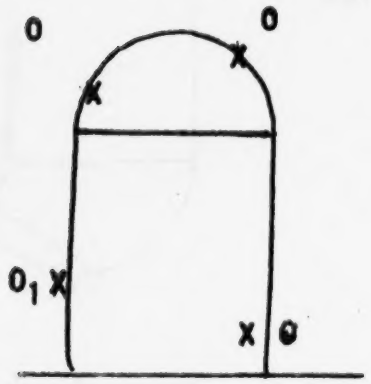
A. ①; because the forward moves into the area protected by other guards.
B. ①; because the forward is more likely to violate the three-second rule.
C. ②; because the forward must execute a more difficult shot from near the end line.
D. ②; because the guard can move to block a shot more easily.



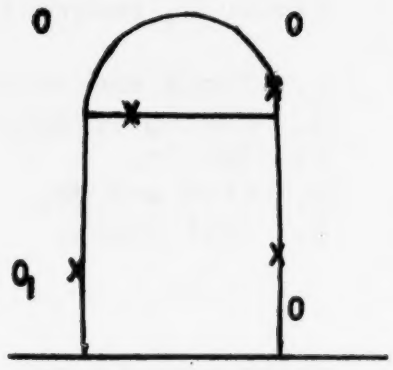
26. Which of the following passes is the most effective for a long pass (25 feet or more) downcourt to a moving player?

A. Chest pass.
B. Two hand overhead pass.
C. One hand underhand pass.
D. One hand overhand pass.

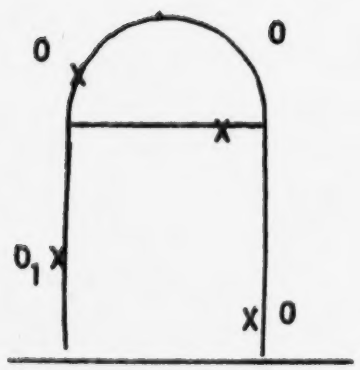
27. O_1 has the ball. Which of the <u>diamond</u> zone defenses has positioned itself most effectively?



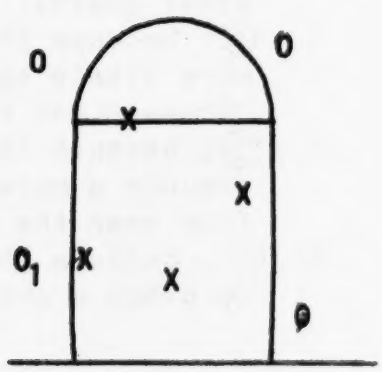
A



B



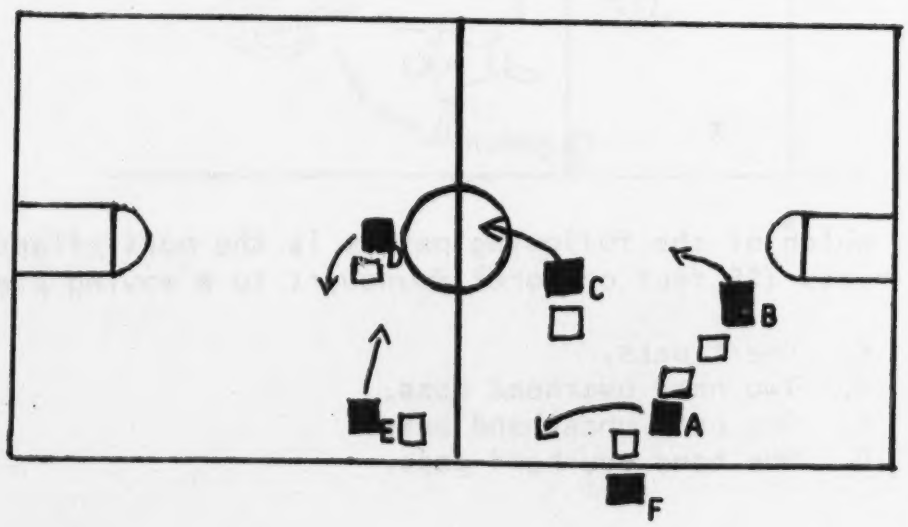
C



D

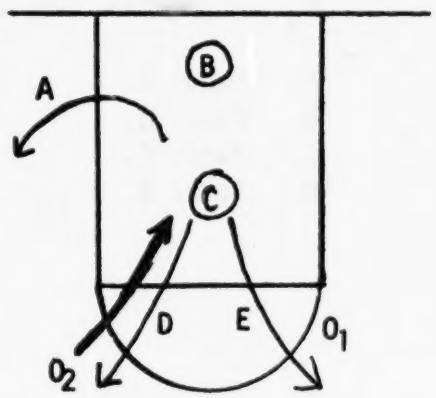
28. ■$_F$ has the ball out of bounds in her backcourt. To which player should she attempt to pass the ball?

A. ■$_A$
B. ■$_B$
C. ■$_C$
D. ■$_D$
E. ■$_E$



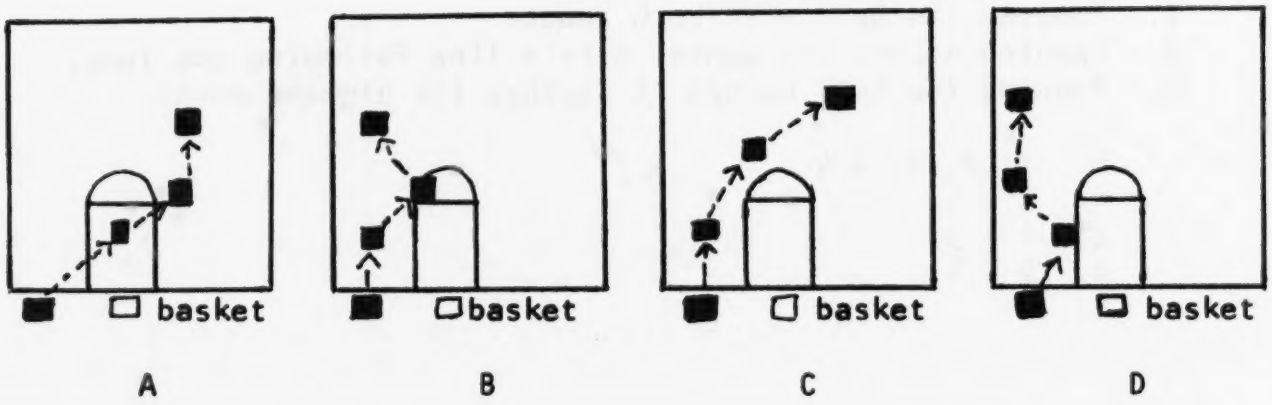
24

29. O_1 has the ball. O_2 cuts in on the path indicated but O_1 does not pass to her. What should O_2 do now?



A. Move to the side of the key along path A.
B. Move to position B and wait for a pass from O_1.
C. Wait at position C for a pass from O_1.
D. Retrace her steps along path D.
E. Move to the top of the key along path E.

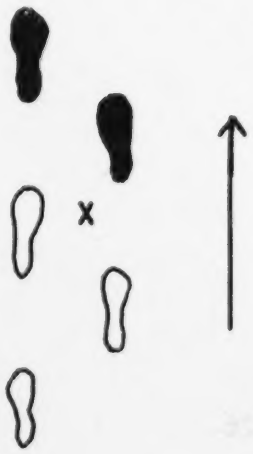
30. Which of the diagrams below shows the best method for the guards to use to pass the ball up toward the center line?



31. During a jump ball, when should the jumpers leave the floor to tap the ball?

A. Just as the referee releases the ball.
B. Just before the ball reaches its highest point.
C. Just as the ball reaches its highest point.
D. Just after the ball reaches its highest point.

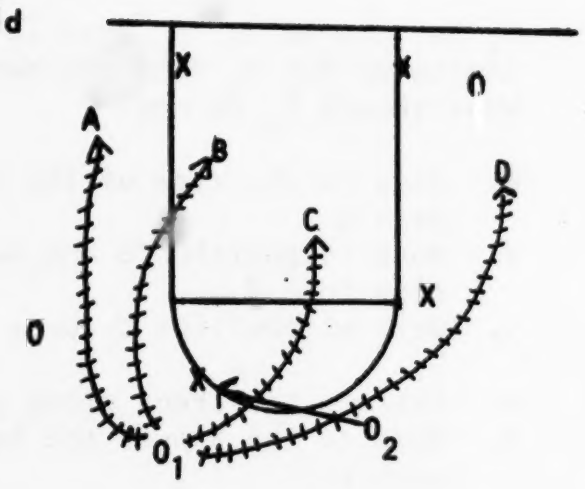
32. A player ran down the court as shown by the footprints. She received the ball at position X, landed first on her right foot, then on her left. Which of the following statements is true?



A. She must use her right foot as her pivot foot.
B. She must use her left foot as her pivot foot.
C. She may choose either foot as a pivot foot.
D. She violated the traveling rule.

33. 0_1 has the ball; 0_2 moves to the position shown; which path should 0_1 take with the ball?

A. Path A.
B. Path B.
C. Path C.
D. Path D.

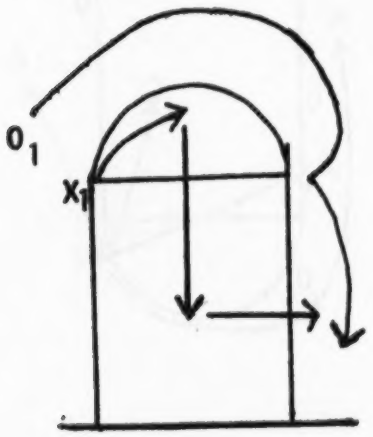


34. Which of the following statements are violations that may be made by a player jumping for a jump ball?

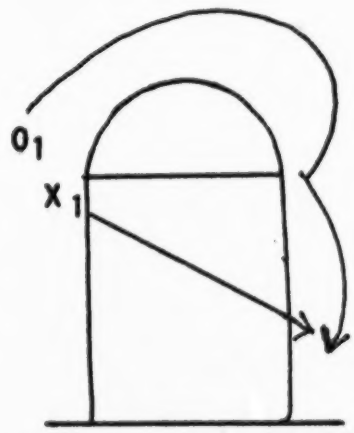
1. Tapping the ball twice.
2. Tapping the ball with both hands.
3. Landing across the center circle line following the jump.
4. Tapping the ball before it reaches its highest point.

A. 1, 2, 3, & 4.
B. 3 & 4.
C. 1 & 3.
D. 2 & 4.
E. 4

35. O_1 does not have the ball. The guards are using a man-to-man defense. Which path should X_1 follow to continue guarding O_1 as she moves toward the basket?

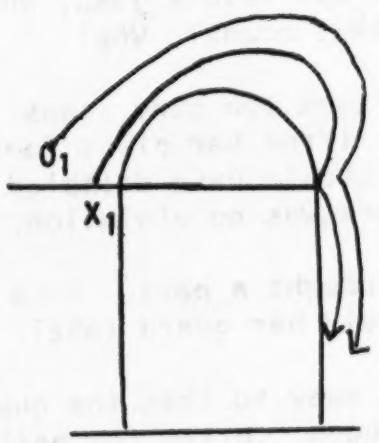


A



B

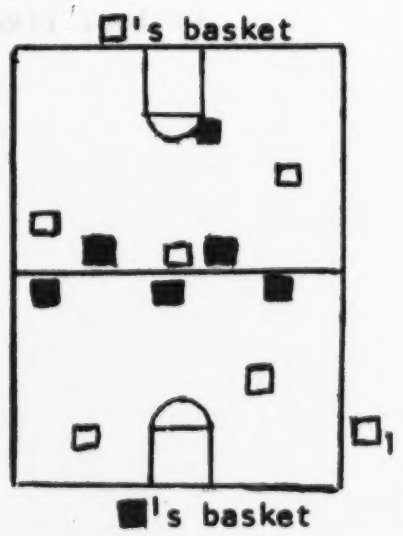
C



D

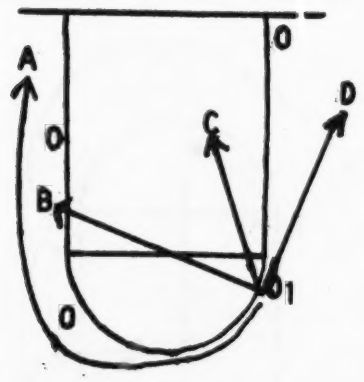
36. □$_1$ has the ball. What defense has the ■ team employed to prevent the □ team from moving the ball down the court toward their basket?

A. Man-to-man press.
B. Blockade.
C. Overload.
D. Fast break.
E. Center line squeeze.



37. After O_1 shoots the ball, which path should she take?

A. Path A.
B. Path B.
C. Path C.
D. Path D.

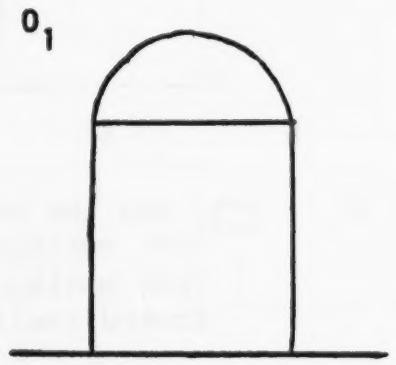


38. A player is moving into position for a right handed lay-up shot. She takes a hop on her right foot and receives the ball while she is in the air. She lands on her right foot, steps forward on her left to push-off into a jump, and makes a basket while in the air. Does the basket count? Why?

A. No; she took too many steps.
B. No; she lifted her pivot foot before she released the ball.
C. No; she should have dribbled as her left foot hit the floor.
D. Yes; there was no violation.

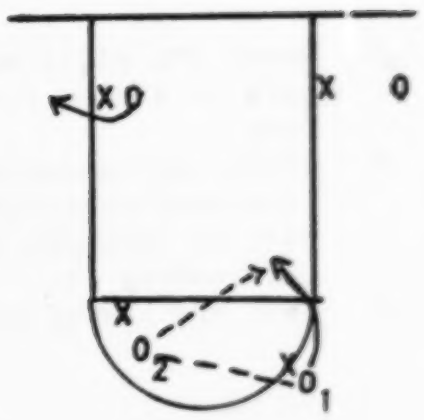
39. O_1 has just caught a pass. In a man-to-man defense, what position should her guard take? Why?

A. 1-2 feet away so that the guard is close enough to tie the ball.
B. 1-2 feet away so that O_1 is more likely to throw a poor pass.
C. 3-4 feet away so that O_1 is less likely to evade her.
D. 3-4 feet away so that the guard is less likely to foul O_1.



40. What offensive pattern are O_1 and O_2 employing?

A. Fast break.
B. Cutting.
C. Give and go.
D. Block and roll.
E. Moving screen.



41. What maneuver did player 8 execute to get by her guard?

A. Screen.
B. Feint.
C. Cut.
D. Pick.

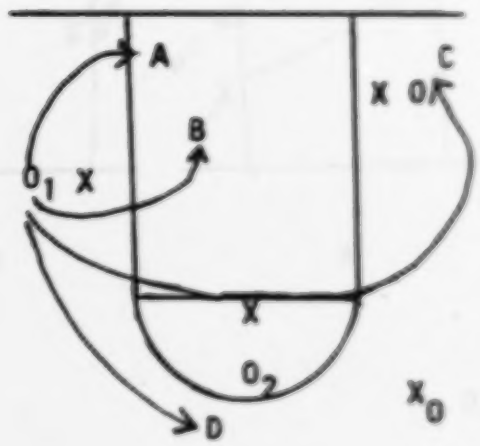
42. In which of the following situations will a fouled player receive exactly two foul shots?

1. Last two minutes; fouled while dribbling.
2. First quarter; fouled while shooting; basket made.
3. Second quarter; fouled while shooting; basket missed.
4. Last two minutes; fouled while shooting; basket missed.

A. 1 & 3.
B. 1 & 4.
C. 3 & 4.
D. 1, 3, & 4.
E. 2, 3, & 4.

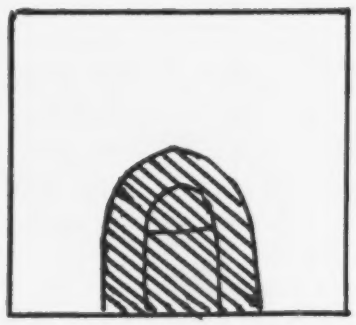
43. O_2 has the ball. O_1 wishes to evade her guard in order to receive a pass from O_2 and shoot. Which path is best?

A. Path A.
B. Path B.
C. Path C.
D. Path D.



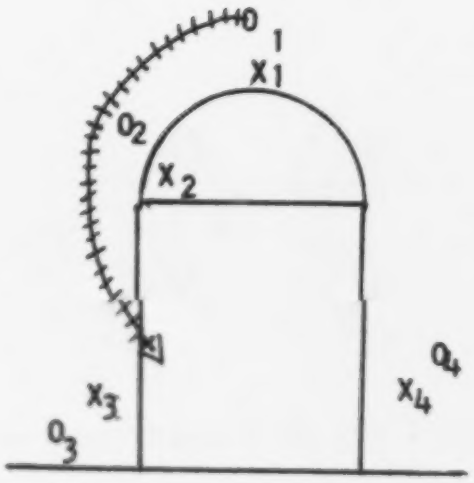
29

44. As a general rule, is it good or bad strategy for an offensive player who receives the ball within the shaded area to bounce the ball before passing to a teammate?

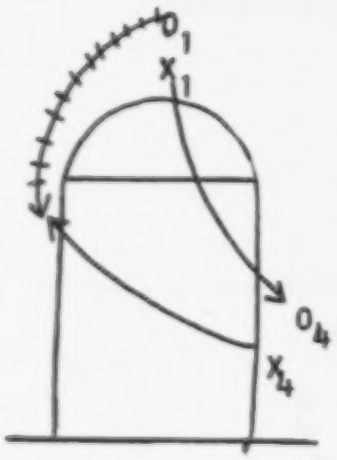


A. Good; she has time to look for a teammate in a good position to receive a pass.
B. Good; her teammates have time to move into good positions to receive a pass.
C. Bad; an opponent may steal the ball as she bounces it.
D. Bad; the guards have time to establish defensive positions.

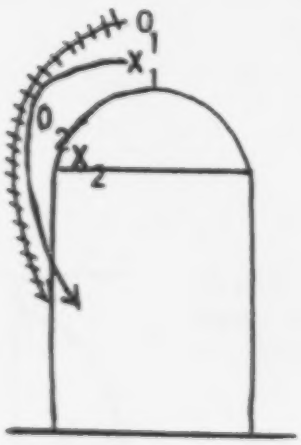
45.



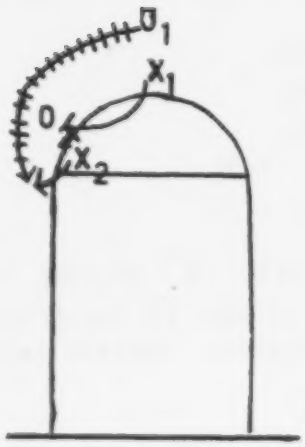
O_1 has the ball. The guards are using a man-to-man defense. How can the guards prevent O_1 from cutting, unguarded, toward the basket?



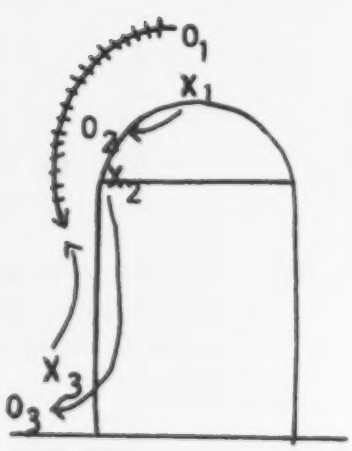
A



B



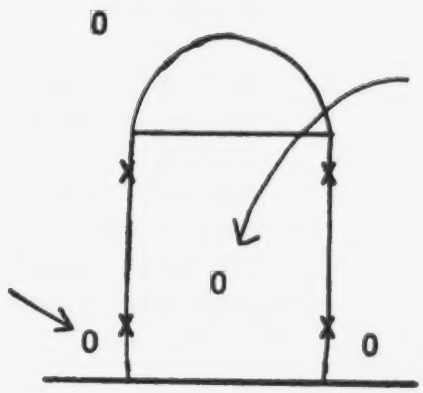
C



D

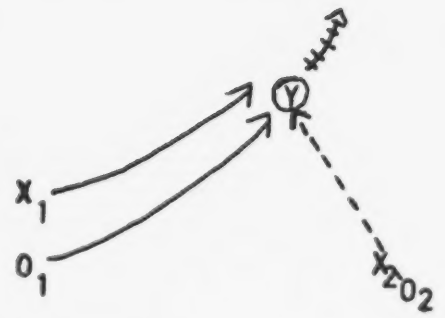
30

46. What offensive pattern has the 0 team employed?



A. Overload.
B. Post offense.
C. Multiple screen.
D. Fast break.
E. Diamond offense.

47. 0_2 has the ball and wants to pass to 0_1 as 0_1 reaches point (Y). What should 0_2 do in order to prevent X_2 from deflecting or intercepting the pass?



A. Throw a two hand overhead pass toward spot (Y) over X_2's outstretched arms.
B. Fake to her own left and pass to her right toward spot (Y).
C. Dribble once to her own left, pivot toward spot (Y), and pass.
D. Pivot to her right and pass over X_2's shoulder toward spot (Y).

48. What should the player do to improve her technique for a one-hand (right-handed) set shot?

A. Her left foot should be forward.
B. Her hips should be aligned squarely with the basket.
C. The ball should be held more toward her right shoulder.
D. The ball should be lowered to just above waist level.

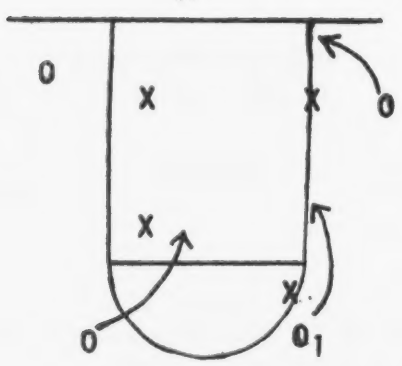
49. For which of the following shots does the player "set" with one or both feet remaining in contact with the floor?

1. Two-hand overhead.
2. Lay-up.
3. Hook.
4. One-hand push.
5. Two-hand push.

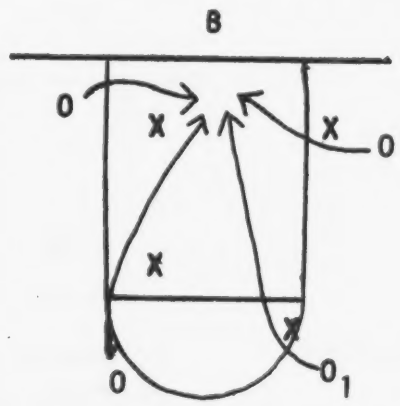
A. 1.
B. 4 & 5.
C. 1, 2, & 3.
D. 3, 4, & 5.
E. 1, 4, & 5.

50. 0, shoots the ball from the position indicated. Which diagram shows the best rebounding positions for the 0 team?

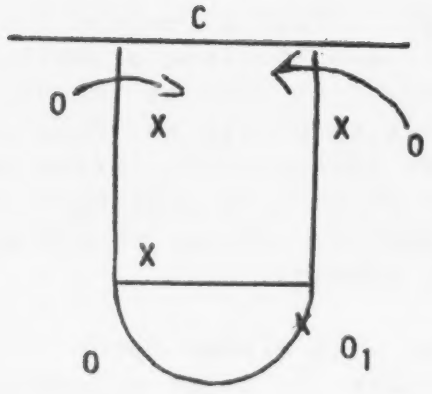
A



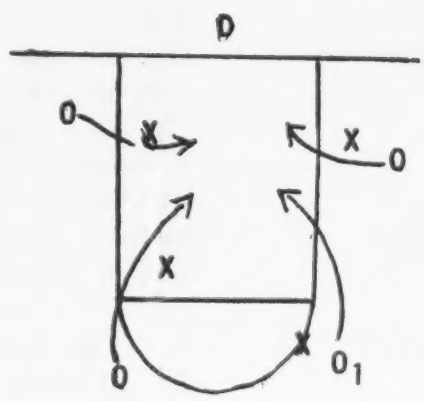
B



C



D

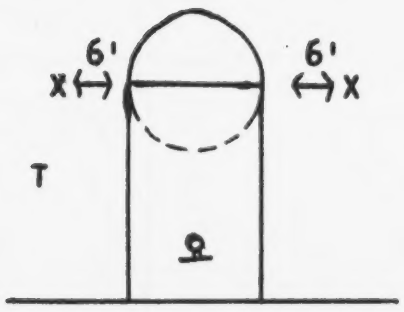


APPENDIX B

BASKETBALL PERFORMANCE TEST

BASKETBALL DRIBBLING AND LAY-UP SHOOTING (SPEED AND ACCURACY)

DIANN LAING AND BARBARA CONRY



DESIGNATED MARKS ON FLOOR — X

TESTER — T

PURPOSE: To measure speed and control with which player can perform lay-up shooting and dribbling skill.

DESCRIPTION: With ball in hand, the player stands on either "X" that is marked on the floor. On the signal "Go," player starts with a dribble and continues until in proper position to shoot for basket. After attempted shot, player must rebound the ball and continue dribbling to the opposite "X" on the floor. As soon as the opposite "X" has been touched, the player pivots and reverses direction to perform another lay-up shot. After each attempted shot, player must dribble to alternate "X" before another shot is attempted. Player shoots as many goals as possible within 30 seconds.

RULES:

1. The ball may be dribbled with either hand.
2. Player must touch alternate "X" after attempted shot.
3. Legal dribbles must be used.
4. In attempt to shoot for basket, a period of time must elapse when both feet of the player have left the floor. This prevents a stopping action and allows for free continuous flow of movement.
5. Two complete trials of 30 seconds each are allowed.

POINTS:

1. 2 points for successful basket.
2. 1 point for rimming the basket.
3. 0 points for not leaving floor <u>with both feet</u> when shooting.

NOTE: (Each "X" is six feet from the end of the foul line.)

May 1968

APPENDIX C

BASKETBALL RATING SHEET
SCORE SHEET

TEAM_____ JUDGE_____ (Name) (Designation)

#	#	#	#	#	#	#	#	#	ITEM	#	#
									GENERAL BODY CONTROL		
									PASSING		
									CATCHING		
									GUARDING		
									SHOOTING		
									DRIBBLING		
									REBOUNDS		
#	#	#	#	#	#	#	#	#	ITEM	#	#
									TOTAL		

TEAM_____

#								#	
#								#	
#								#	
#								#	
#								#	
#								#	
#								#	
#								#	

GENERAL BODY CONTROL

Demonstrates ability to get away from opponent keeping body well controlled

Works to advantageous position

Moves instead of reaching

Pivots

PASSING

Occurs at correct height

Is placed well for moving player

Selects good choice of type

Locates open player quickly

CATCHING

GUARDING

Is alert and adaptable

Maintains proper distance

Intercepts ball

Is on correct side of opponent

SHOOTING

Shoots only when appropriate

Executes proper arch

Follows shot

Makes basket

DRIBBLING

Uses to advantage

Covers distance

Has ball in control

Protects ball with body

REBOUNDS

Is correct on timing

Jumps high

Protects ball with body

Scoring Scale 5
4
3
2
1

EXPLANATION OF SCORE SHEET

APPENDIX D

UNIVERSITY OF WASHINGTON
School of Physical and Health Education
Department for Women

QUESTEST: SWIMMING (REVISED)

Name _____

Address _____

Year in School _____ Physical Education Class _____

Previous swimming class at University: _____Yes _____No

Part I. Read each question carefully and answer as completely as possible.

1. If you have a certificate of swimming ability check the highest level you have attained.

Red Cross Certificate
_____ Beginner
_____ Advanced Beginner
_____ Intermediate
_____ Swimmer
_____ Advanced Swimmer
_____ Jr. Life Saving
_____ Sr. Life Saving
_____ Water Safety Instructor
_____ Other: YMCA, YWCA, Canadian, private club, etc. certificate and level _____
_____

2. If you have no certificate or less than an intermediate certificate, how much swimming experience have you had?

_____ activity class: level _____
- _____ high school
- _____ college
- _____ recreation department
- _____ YMCA or YWCA
- _____ private club pool
- _____ university extension
- _____ other

_____ instruction at camp: level _____

_____ taught by friends or self-taught

_____ "played" in the water

_____ no experience

3. What is your estimate of your ability?

Check all the answers that apply to you.

a. _____ cannot swim across a pool (25 feet) using a recognizable stroke.

b. _____ can swim across a pool (25 feet) using a recognizable stroke.

c. _____ can swim 2 lengths of a pool (50 yards) but probably cannot swim 2 lengths (50 yards) using a good front crawl stroke.

d. _____ can swim 2 lengths of a pool (50 yards) using a good front crawl stroke.

e. _____ can enter the water head first.

f. _____ can stay afloat for five minutes (float, tread, paddle, swim) without touching the sides of the pool.

g. _____ can swim the breaststroke.

h. _____ can swim the backstroke.

i. _____ can swim the sidestroke.

Part II. Read each question carefully. Select the response which best answers the question. Mark the letter of the response on the line preceding the question.

_____ 1. What is the relationship between the movements of the arms in the front crawl?
- A. The arms do similar movements at the same time.
- B. The arms do different movements in alternation.
- C. The arms do different movements at the same time.
- D. The arms do similar movements in alternation.

_____2. Which of the following best describes the movement of the head when inhaling in the front crawl?
A. The head is turned to one side.
B. The head is turned to alternate sides.
C. The head is turned to one side, and lifted.
D. The head is lifted forward.

_____3. What is the position of the arms in the glide for the side stroke?
A. Bottom arm leading the body, top arm at thigh.
B. Bottom arm leading the body, top arm bent with hand at shoulder level.
C. Both arms at sides.
D. Bottom arm at thigh, top arm leading the body.

_____4. In what direction do the legs reach in the side stroke?
A. One forward and one down.
B. Both to the side.
C. One forward and one back.
D. One forward and then the other forward.

_____5. When is force applied in the breast stroke kick?
A. As the toes lead out to the side.
B. As the legs move together.
C. As the feet complete the reach to the side.
D. As the knees and ankles bend.

_____6. How can a swimmer regain the surface quickly after jumping into deep water?
A. By pushing the water toward the surface.
B. By pulling the water toward the feet.
C. By doing a bicycling motion with the legs.
D. By exhaling.

_____7. Which of the following is most likely to cause a flat or shallow entry in diving?
A. Bending the body at the hips.
B. Lifting the head just before entering the water.
C. Keeping the legs straight.
D. Lowering the head just before entering the water.

JLG:RMW:JP 6/69

APPENDIX E

FILM EVALUATION PROCEDURE

1. Observe each free exercise performance recording the videotape recorder revolutions at beginning and end of each individual performance and observe general skill level of performances.

2. Observe each performance, recording the path of the performer on the scoresheet to determine the use of floor space.

3. Observe each performance, recording the incidence of each stunt on the scoresheet.

4. Assign values to each stunt and calculate the score for the Difficulty category.

5. Observe each performance to judge Transitions and Continuity taking rhythm and timing into consideration. Record score.

6. Observe each performance, judging General Impression while considering posture, grooming, smoothness of movements as well as appropriateness of music. Record score.

7. Observe each performance, judging Execution of all movements, considering balance, alignment of limbs as well as appropriateness of vigorous and smooth movements. Record score.

8. Total the four scores.

9. Calculate values of errors for length of performance or use of floor area.

10. Calculate the total score for each performer.

APPENDIX F

SCORESHEET FOR FILM EVALUATION OF FREE EXERCISE ROUTINES

B. JOAN POPE

Back Roll

Cartwheel

Flip

Forward Roll

Front Scale

Handspring

Headstand or Handstand

Swedish Fall

V-sit

Walkover

_____ (3) Difficulty

_____ (2) Transitions and Continuity

_____ (3) General Impression

_____ (2) Execution

_____ Total

\- _____ Minus points for routine
too short or too long;
outside floor area (.5);
not using space (.5).

_____ TOTAL SCORE

Use of floor space

Revolutions:
Stop _____
Start _____

COMMENTS:

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